



Federal Fiscal Year 2022 Strategic Plan for Traffic Records Improvements

Prepared for:

**National Highway Traffic Safety Administration,
U.S. Department of Transportation**

Submitted by:

**Executive Office of Public Safety and Security's Office of Grants and Research in
conjunction with the Massachusetts Traffic Records Coordinating Committees**

July 1, 2021

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1.0 BACKGROUND

1.1 Introduction

This FFY 2022 update to the Commonwealth of Massachusetts' Strategic Plan for Traffic Records Improvements was developed by the Massachusetts Executive Office of Public Safety and Security's (EOPSS) Office of Grants and Research (OGR), with support from the Commonwealth's Executive-level and Working-level Traffic Records Coordinating Committees (TRCC).

The purpose of this document is to provide traffic records stakeholders in the Commonwealth with a strategic plan for improvements of core traffic records systems. The plan is based primarily on recommendations and considerations identified through the 2019 Commonwealth of Massachusetts Traffic Records Self-Assessment.

The Executive-level TRCC voted to approve this FFY 2022 plan update on May 18, 2021, empowering OGR to make any remaining minor edits before the expected submission in early July 2021.

A TRCC is a statewide stakeholder forum to primarily facilitate the selection, implementation, and evaluation of projects to improve a state's core traffic records systems. The Massachusetts TRCCs are a partnership of representatives from the highway safety, transportation, law enforcement, criminal justice, and public health professions. The Working-level TRCC (WTRCC) and the Executive-level TRCC (ETRCC), with this plan as a guide, strive to improve the accessibility, accuracy, completeness, integration, timeliness, and uniformity of the core traffic records systems listed below. It is expected this will lead to better problem identification and countermeasure selection, program implementation, and program evaluation by the above-mentioned professions in Massachusetts.

The Secretary of Public Safety and Security oversees OGR, which is the lead entity in the Commonwealth for the application for and administration of federal highway safety funding from the National Highway Traffic Safety Administration (NHTSA), including those funds for traffic records improvement.

In this role, the Secretary serves as the Governor's Representative for Highway Safety.

The ETRCC is currently chaired by Kerry Collins, the Undersecretary of Forensic Science and Technology for EOPSS. The WTRCC is chaired currently chaired by Jeff Larason, OGR's Highway Safety Division Director, who also serves as vice chair of the ETRCC. The current State Traffic Records Coordinator, Brook Chipman, a Senior Program Manager within OGR, serves as vice chair of the WTRCC. TRCC purposes and responsibilities are enumerated in the TRCC charters in Section 1.2 and 1.3.

The Commonwealth's traffic records systems are comprised of the following six core traffic safety information systems that are accessible to varying degrees to highway safety professionals, related disciplines, and the public:

Crash Data System

Karen Perduyn

Crash Data Manager

Massachusetts Registry of Motor Vehicles

karen.perduyn@dot.state.ma.us

Driver License/History Data System

Steve Evans

Director of Driver Licensing

Massachusetts Registry of Motor Vehicles

steve.evans@dot.state.ma.us

EMS/ Injury Surveillance Data System

Scott Cluett

Office of EMS Director

Massachusetts Department of Public Health

william.scott.cluett@state.ma.us

Rebekah Thomas
Director of Injury Prevention and Control
Massachusetts Department of Public Health
rebekah.thomas@state.ma.us

Roadway Data System

Kevin Lopes
Manager of GIS Services
Office of Transportation Planning
Massachusetts Department of Transportation
kevin.lopes@dot.state.ma.us

Citation/Adjudication Data System

Paul Franzese
Director
Merit Rating Board
paul.franzese@dot.state.ma.us

Vehicle Registration Data System

Erin Sheehan
Acting Director of Title and Registration
Massachusetts Registry of Motor Vehicles
erin.sheehan@dot.state.ma.us

1.2 Role of the Working-Level TRCC

The WTRCC is the primary means by which communication and coordination are facilitated and perpetuated between collectors, custodians, and users of data that make-up the Commonwealth's traffic records systems.

The WTRCC organization, mission, vision, purpose, governance, and membership are enumerated in the WTRCC Charter.

Commonwealth of Massachusetts

Working-level Traffic Records Coordinating Committee (WTRCC)

FFY 2021-2022 Charter

ORGANIZATION

By recommendation of the National Highway Traffic Safety Administration (NHTSA) and the Commonwealth of Massachusetts' strategic planning activities, the Executive Office of Public Safety and Security (EOPSS) convened the first meeting of its Executive-Level Traffic Records Coordinating Committee (ETRCC) on January 22, 2010. The Commonwealth's prior Traffic Records Coordinating Committee (TRCC) then became a broad, working-level stakeholder group known as the Working-Level TRCC (WTRCC). The purpose of a two-tier TRCC was to establish and coordinate strategic, long-term planning activities at an executive-level and to continue to identify needs and solutions at a working-level. In Massachusetts, the ETRCC and WTRCC share the same mission and vision.

MISSION

Through the coordinated efforts of its member organizations, provide a forum for the creation, implementation, management and dissemination of accessible, accurate, complete, integrated, timely, and uniform traffic records data to aid decision-makers working to reduce transportation-related fatalities, injuries, and economic losses in Massachusetts.

VISION

Save lives and reduce injuries on Massachusetts roadways by using efficient processes to collect, store, and analyze complete and accurate traffic safety information and by making it freely available to all safety stakeholders.

PURPOSE

Ensure that accurate, complete, and timely traffic safety data is collected, integrated, analyzed, and made available for decision-making by ETRCC and WTRCC member organizations and other public and private professionals. In accordance with the requirements contained in the Federal Register, Vol 83, No. 17, January 25, 2018, Section 1300.22, key functions of the WTRCC will include, but not be limited to:

1. Provide a forum for the discussion of highway safety data and traffic records issues and report on any such issues to the agencies and the organizations in the Commonwealth that create, maintain and use highway safety data and traffic records;
2. Include representatives from the six core data systems that make up a State Traffic Records system (crash, citation, driver, vehicle, roadway, and injury surveillance systems) as well as users, collectors, and providers of traffic safety data;
3. Consider the views of and facilitate discussion between organizations in the Commonwealth that are involved in the administration, collection and use of the highway safety data and traffic records system;
4. Represent the interests of the WTRCC to outside organizations, and the ETRCC's interest if authorized by that body to do so;
5. Assist ETRCC and WTRCC members applying for public and private funds to support and improve traffic records;
6. Under the direction of the ETRCC, periodically review the status of selected traffic records data systems and provide feedback on the impact of any proposed changes on stakeholders;
7. Organize and conduct working groups as appropriate to address technical and programmatic needs of the WTRCC and the ETRCC's if authorized by that body to do so;
8. Document its collective support of the Strategic Plan for Traffic Records Improvement to the ETRCC and assure that the plan is appropriately updated each year for ETRCC approval in the areas of: data system progress, deficiencies, benchmarks, and performance measures; project progress, challenges,

benchmarks, and performance measures; and documenting progress towards addressing the latest NHTSA and FHWA assessments;

9. Review proposed projects submitted in response to the Commonwealth's periodic Section 405c application process (administered by the EOPSS's Office of Grants and Research (OGR) and provide project recommendations to the ETRCC; provide monitoring assistance, implementation support, and reporting to the ETRCC on projects approved for funding.

Notwithstanding the above, the WTRCC recognizes:

- The responsibility of its member agencies to work collaboratively to achieve the statewide vision for traffic safety information systems;
- The responsibility of its member agencies to manage their own safety information systems to accomplish their mission by improving internal business processes;
- The need to create a collective sense of responsibility among its member agencies for developing and sharing safety data in support of the State's highway safety mission in a manner that minimizes cost, duplication of effort, and inefficiencies;
- The need to ensure regular communication with the Commonwealth's ETRCC regarding the issues they face at the day-to-day working level; and
- The need to work within their organizations to implement the recommendations of the *Commonwealth of Massachusetts Traffic Records Assessment*, 2014.

GOVERNANCE OF WTRCC

The Commonwealth's Traffic Records Coordinator will be appointed by the Highway Safety Division Director of the EOPSS/OGR to support both the ETRCC and the WTRCC. The Highway Safety Division Director of the EOPSS/OGR will serve as the chair of the WTRCC. The Traffic Records Coordinator will be the WTRCC vice chair and will serve in the chair's absence.

Each WTRCC member organization (see below) shall designate its member(s) of the WTRCC. WTRCC members will be renewed annually.

The WTRCC will meet a minimum of three times per year. A majority vote will be sufficient for WTRCC business matters. Each member organization will have one vote.

I accept this Commonwealth’s WTRCC Charter. This approval is effective through September 30, 2022.

Print Name:	Signature	Date
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Title:	Organization
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WTRCC MEMBER ORGANIZATIONS *

- Boston Region Metropolitan Planning Organization/
Central Transportation Planning Services
- Regional Planning Agencies (up to three recommended by the
Massachusetts Association of Regional Planning Agencies)
- Massachusetts Department of Public Health – Bureau of Health Care
Safety and Quality
- Massachusetts Department of Public Health – Injury Surveillance System
- Boston Emergency Medical Services/Boston Public Health Commission
- MassDOT/Registry of Motor Vehicles
- MassDOT/Merit Rating Board
- MassDOT/Highway Division
- MassDOT/Office of Planning
- Local Police (One member of the Massachusetts Chiefs of Police
Association, one member of the Association’s Technology Committee,
and the Boston Police Department)

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- University of Massachusetts/UMassSafe
 - Executive Office of Public Safety and Security/Department of Fire Services
 - Executive Office of Public Safety and Security/Office of Grants and Research
 - Executive Office of Public Safety and Security /Office of the Chief Medical Examiner
 - Executive Office of Public Safety and Security/Massachusetts State Police
 - Executive Office of Public Safety and Security/Municipal Police Training Committee
 - Executive Office of Technology Services and Security
 - Massachusetts Trial Court

Current advisory members, with no voting powers:

- National Highway Traffic Safety Administration (NHTSA)
- Federal Highway Administration (FHWA)
- Federal Motor Carrier Safety Administration (FMCSA)

*The full WTRCC membership list, provided to WTRCC members at the 2/5/21 WTRCC meeting, and to the ETRCC prior to their 5/18/21 meeting, and any changes confirmed at those meetings, are incorporated by reference into this plan.

1.3 Role of the Executive-Level TRCC

The ETRCC provides a forum for senior decision-makers to ensure optimum communication and coordination occurs between collectors, custodians, and users of data involved with the Commonwealth's traffic records systems. The ETRCC primarily does this by reviewing, refining, and approving recommendations resulting from the WTRCC.

The ETRCC's organization, mission, vision, purpose, governance, and membership are enumerated in the ETRCC Charter.

Commonwealth of Massachusetts
Executive-Level Traffic Records Coordinating Committee
FFY 2021-2022 Charter

ORGANIZATION

By recommendation of the National Highway Traffic Safety Administration (NHTSA) and the Commonwealth of Massachusetts' strategic planning activities, the Executive Office of Public Safety and Security (EOPSS) convened the first meeting of its Massachusetts Executive-Level Traffic Records Coordinating Committee (ETRCC) on January 22, 2010. A NHTSA Traffic Records Assessment for Massachusetts, which took place March 2009, recommended the Commonwealth "establish the Executive-Level of the Traffic Records Coordinating Committee (ETRCC) to ensure full support and authorization of the TRCC and its members by the executives of all agencies in whose area of responsibility the components of the traffic records system fall." To that end, EOPSS invited owners of the core traffic records systems and a small representative sample of data consumers and collectors (see below) to join the ETRCC. Broader stakeholder participation remains with the Working-level TRCC (WTRCC). In Massachusetts, the ETRCC and WTRCC share the same mission and vision.

MISSION

Through the coordinated efforts of its member organizations, provide a forum for the creation, implementation, management and dissemination of accessible, accurate, complete, integrated, timely, and useful traffic records data to aid decision-makers working to reduce transportation-related fatalities, injuries, and economic losses in Massachusetts.

VISION

Save lives and reduce injuries on Massachusetts roadways by using efficient processes to collect, store, and analyze complete and accurate traffic safety information and make it freely available to all safety stakeholders.

PURPOSE

Ensure that accurate, complete, and timely traffic safety data is collected, integrated, analyzed, and made available for decision making by ETRCC member organizations and other public and private professionals. In accordance with the requirements contained in the Federal Register, Vol 83, No. 17, January 25, 2018, Section 1300.22, key functions of the ETRCC will include, but not be limited to:

1. Maintain authority to review any of the Commonwealth's highway safety data and traffic records systems and any changes to such systems before the changes are implemented;
2. Provide a forum for the discussion of highway safety data and traffic records issues and report on any such issues to the agencies and the organizations in the Commonwealth that create, maintain, and use highway safety data and traffic records;
3. Consider and coordinate the views of organizations in the Commonwealth that are involved in the collection, administration, and use of highway safety data and traffic records systems, and represent those views to outside organizations;
4. Represent the interests of the ETRCC and the WTRCC to outside organizations;
5. Review and evaluate new technologies to keep the highway safety data and traffic records systems up-to-date;
6. Assist ETRCC and WTRCC members applying for public and private funds to support and improve traffic records;

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7. Assure the Commonwealth's Strategic Plan for Traffic Records Improvement incorporates IT strategies and business plans and documents all sources of funding for data improvement projects in the plan;
 8. Approve the Commonwealth's annual Section 405c application, including projects supported by this funding source, submitted by EOPSS's Office of Grants and Research (OGR) to NHTSA;
 9. Review and provide input on other federal traffic records funding received by EOPSS/OGR; and
 10. Approve annually the membership of the ETRCC and the WTRCC, the TRCC coordinator, updates based on Section 405 guidance to the Commonwealth's Strategic Plan for Traffic Records Improvement, and performance measures to be used to demonstrate quantitative progress in the accuracy, completeness, timeliness, uniformity, accessibility or integration of at least core highway safety database.

Notwithstanding the above, the ETRCC recognizes:

- The responsibility of its member agencies to work collaboratively to achieve the statewide vision for traffic safety information systems;
- The responsibility of its member agencies to manage their own safety information systems to accomplish their mission by improving internal business processes;
- The need to create a collective sense of responsibility among its member agencies for developing and sharing safety data in support of the Commonwealth's highway safety mission in a manner that minimizes cost, duplication of effort, and inefficiencies;
- The need to ensure regular communication with the Commonwealth's WTRCC regarding the issues they face at their executive-level;
- The importance of member agencies engaging in open communication to maximize the effectiveness, compatibility, and interoperability of any federally-funded projects in conjunction with the Strategic Plan for Traffic Records Improvements and will facilitate compliance with all federal reporting requirements.

GOVERNANCE OF THE ETRCC

The Commonwealth's Traffic Records Coordinator will be appointed by the Highway Safety Division Director at OGR to support both the ETRCC and the WTRCC. The ETRCC will be chaired by the EOPSS Undersecretary for Forensic Science and Technology. The Highway Safety Division Director at OGR will serve as vice chair to serve in his/her absence. Each ETRCC member organization shall designate its member of the ETRCC.

ETRCC members will be renewed each year. The ETRCC will meet a minimum of once per year and more as needed.

Each ETRCC member organization will have one vote. The ETRCC may extend membership to additional organizations and representatives by majority vote. Votes requiring a 2/3 majority of the ETRCC include approvals of a Strategic Plan for Traffic Records Improvement, a Section 405c application, and projects for Section 405c funding. A majority vote will be sufficient for normal ETRCC business matters.

ETRCC MEMBER ORGANIZATIONS *

- Massachusetts Association of Regional Planning Agencies
- Massachusetts Department of Public Health – Injury Surveillance Program
- Massachusetts Department of Public Health – Bureau of Health Care Safety and Quality
- MassDOT/Office of Planning
- MassDOT/Registry of Motor Vehicles
- MassDOT/Merit Rating Board
- MassDOT/Highway Division
- Massachusetts Chiefs of Police Association
- Executive Office of Public Safety and Security/Undersecretary for Forensic Science and Technology

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- Executive Office of Public Safety and Security/Department of Criminal Justice Information Services
 - Executive Office of Public Safety and Security/Municipal Police Training Committee
 - Executive Office of Public Safety and Security/Massachusetts State Police
 - Executive Office of Public Safety and Security/Office of Grants & Research
 - Executive Office of Technology Services and Security
 - Massachusetts Trial Court

Current advisory members, with no voting powers:

- National Highway Traffic Safety Administration (NHTSA)
- Federal Highway Administration (FHWA)
- Federal Motor Carrier Safety Administration (FMCSA)

*The full ETRCC membership list, provided to members prior to the 5/18/21 ETRCC meeting, and any updates confirmed at that meeting, are incorporated by reference into this plan.

2.0 Traffic Records Systems

The Massachusetts core traffic records systems are managed by the following agencies:

- Registry of Motor Vehicles Division (RMV) of the Massachusetts Department of Transportation (MassDOT) manages the crash, driver history, and vehicle registration systems;
- Merit Rating Board (MRB) of MassDOT/RMV maintains operator driving history records consisting of at-fault accident claim records, comprehensive claim records, out-of-state incidents, and civil and criminal traffic citation information;
- Massachusetts Trial Court (MTC) manages adjudication information;
- MassDOT's Office of Transportation Planning (OTP) manages the road inventory file; and
- Massachusetts Department of Public Health (MDPH) and the Center for Health Information and Analysis (formerly known as the Division of Healthcare Finance and Policy) manage injury surveillance, EMS, and other healthcare/trauma/insurance/death/behavioral risk factor information-related systems.

The following section provides a brief overview on each system. **Key changes to these systems in the last year or expected in FFY 2022 are bolded and underlined below.**

2.1 Crash Data System

System Key Points

The RMV operates the Commonwealth's Crash Data System (CDS). Reports of more than 140,000 motor vehicle crashes are received annually by the RMV.

Total Number of Crashes in IMPACT Portal	
Year	Crashes
<u>2017</u>	<u>145,068</u>
<u>2018</u>	<u>142,272</u>
<u>2019</u>	<u>140,605</u>
<u>2020</u>	<u>99,768</u>

As of April 2021, the 2019 and 2020 files are 'preliminary'.

Crash Reports by Agency	2015	2016	2017	2018	2019	2020	2021
Electronically Submissions	51.39% (184)	59.7% (214)	71.2% (236)	77.2% (278)	87.98% (315)	90% (328)	93.6% (335)
Paper Submissions	174	144	103	80	43	30	23
<i>This includes Campus Police, Non-police, Other Police and Transit Police</i>	358	358	358	358	358	358	358

Approximately 93% percent of crash reports are received electronically from state and local law enforcement agencies.

The remainder are received on paper using either the Motor Vehicle Crash Police Report last revised in November 2019, or both methods. Police reports may be used to document the date, time, location, environment, and characteristics of a crash. The crash reporting criterion for both police and operators are: Any crash involving damage to any one vehicle or property exceeding \$1,000, or any injury or fatality.

The MassDOT Highway Division, Traffic Engineering and Safety Section developed an automated process for attaching location coordinates to crash master records that has been in use since 2006. This process is based on standards for location data on crash reports coupled with an extensive set of location matching algorithms that can take the street names, route numbers, exit numbers, mile markers and other location data as supplied in crash reports.

The geocoding tool within IMPACT was implemented in July of 2019. The automated geocoding rate is in excess of 83% and total geocoding is at 95.8% for all 2020 crashes. While the new system has put a lot in place to improve geocoding, it also includes features that will not automatically geocode crashes that had been geocoded in the past. An example is when local law enforcement agencies use an exit number of an interstate as the location point, the crash would have been assigned to that location, but now it also checks the posted speed and if the police input the posted speed as less than 40 mph, the system will not allow the crash to be automatically geocoded. The crash then must be manually reviewed. So while this may lower the automated geocoding rate, the locations are improved.

Continuing improvements have been made to these algorithms to try and improve geocoding and offset the data quality issues surrounding electronic submission. Extensive updates have been made to the MassDOT Planning Roadway Inventory road names (a project completed in 2014) to also improve the matching/geocoding rate. Crashes that are unable to be automatically geocoded are reviewed and located manually, depending on staffing availability. There were improvements implemented with IMPACT to accept the newer roadway information, however CDS has not been updated to reflect some of the improvements in place from Planning's roadway file.

Geocoder algorithm improvements have enabled the statewide crash record geocoding rate to remain above 90% for 2019 and 2020: at this point 95.8% for 2019, 95.8% for 2020 and 93.5% ytd for 2021.

System Performance Measurement(s)

No information provided.

System Accessibility

Public access to data in the CDS is through the IMPACT Crash Data Portal at <https://apps.impact.dot.state.ma.us/cdp/home>. As of 5/10/21 IMPACT has been viewed 31,521 times and used 25,769 times for data by engineers, police, MPOs/RPAs, health professionals, researchers, lay people and others.

Training & Technical Assistance Opportunities

RMV has a Crash Data System Law Enforcement Liaison (LEL) that provides training and technical assistance to state and local law enforcement agencies on the CDS. The LEL has been successful in updating the crash module used for all new officer police trainings. She has worked for three years with the Massachusetts Police Training Committee, MPTC, who oversees the police academy curriculum and stands for all Massachusetts and state police academies, including the MBTA to update the crash module that is presented to all new officers during training. The curriculum now has an updated Crash Module that reflects critical points and procedures when reporting a crash. Also, the LEL attends many of the academy classes during the crash model as a guest in order to answer questions and clarify information.

The RMV participated in the UMassSafe's Tool Improving Crash Report Reviews project and helped launch it to law enforcement in early 2020. It is anticipated that the guidelines created in this project will be an effective tool to assist law enforcement in completing the narrative portion of the crash report.

Recent Developments & Challenges

MassDOT IT/RMV expect to release an RFR for a Crash System Replacement.

The RMV, along with UMassSafe, hope to secure 405-c funded AGF for a new project to build on the success of the 2018 Accept With Warning project. The prior project results have proven to be a valuable when meeting with law enforcement agencies to discuss their agencies' crash reporting. The next hoped-for phase would provide additional resources to support the Law Enforcement Liaison by focusing on working with LEAs to resubmit crash reports that were accepted with warning in the statewide crash system.

The E-Crash Manual continues to serve as the data dictionary of the CDS. RMV works closely with UMassSafe to maintain up to date information in the manual. In October 2020, UMassSafe launched a 405-c funded project to enhance and expand the E-Crash Manual available at masscrashreportmanual.com. These expansions will include:

- Stakeholder survey on use and future needs
- Traffic Records News page
- Addition of ANSI definitions to the data dictionary
- Resources for Crash Record Management Systems Vendors
- Interactive overlay for data dictionary
- Extension promotion

The Boston Police Department launched a 405-c funded project in March 2021 to improve its electronic crash reporting.

In October 2021 the Massachusetts State Police began with UMassSafe assistance a 405-c funding to improve its training for crash reporting for new and current troopers.

2.2 Roadway Data System

System Key Points

The MassDOT Office of Transportation Planning (OTP) maintains the Road Inventory File (RIF) for Massachusetts. This file, which contains more than 36,000 centerline miles and more than 71,000 lane miles of roads, serves as the foundation for the State's Geographic Information System (GIS).

This file is used for a variety of purposes, such as:

- Identifying functional classification, jurisdiction, and National Highway System (NHS) status of all roadways in the State;
- Helping to fulfill the Federal Highway Administration's Highway Performance Monitoring System (HPMS) reporting requirements;

-
- Determining centerline miles by city/town for allocating State Aid Funds to communities; and
 - Supporting development of safety improvement projects.

The Traffic Engineering Section of the Highway Division of MassDOT works in concert with RMV to locate and geocode records in the CDS. The CDS uses roadway information as the basis for locating crashes. Approximately 90% of crash records are matched to a location automatically. However, the accuracy of crash location data depends on both the characteristics of the roadways (and the degree of difficulty in describing crash location due to the complexity of roadway geometry), and degree of precision by police in correctly providing and coding crash location information in their reports.

Traffic counts and pavement condition ratings are obtained on a three-year cycle, and this data is used to update the RIF on a continuous basis. While Massachusetts historically has used ortho-photography to verify the accuracy and completeness of road features and characteristics, the Commonwealth moved to use of a video log for ongoing verification activities of state-owned roadways.

System Performance Measurement(s)

The Road Inventory File (RIF) is generated from an attribute event-based database utilizing Esri's Roads and Highways system. The attributes are registered to the Linear Referencing System (LRS). The database is updated through various stakeholders within MassDOT and other agencies through Event Editors or Web Services. MassDOT's Office of Transportation Planning GIS Services team regularly provides updates to the database.

System Accessibility

GIS data is provided to the public through GeoDOT, a web-based application. GeoDOT contains GIS layers to download, including the RIF file, as well as interactive maps and applications. Requests for services including GeoDOT accounts, software and training are available here. Municipalities provide updates to the local road network using the Road Inventory Submission Application (RISA).

Training & Technical Assistance Opportunities

MassDOT's Office of Transportation Planning continues work on its data dictionary for this system.

Recent Developments & Challenges

MassDOT's Office of Transportation Planning has GIS team member serving as GIS QC Coordinator. This position is now documenting our data management processes as well as developing metadata standards. GIS QC Coordinator meets regularly with Road Inventory editors to understand their workflows and install best practices throughout the process.

2.3 Driver Data System

System Key Points

Driver records are created by the RMV and kept in ATLAS, but the MRB maintains operator driving history records consisting of at-fault accident claim records, comprehensive claim records, out-of-state incidents, and civil and criminal traffic citation information. ATLAS includes records for approximately five million commercial and non-commercial drivers.

The Massachusetts State Police (MSP) Office of Alcohol Testing manages testing for blood alcohol concentration (BAC). The results from breathalyzer tests conducted in the field are broadcast to the MSP every 90 minutes. The MSP relays the information to the RMV nightly, which enables the RMV to have current information on file and to take immediate actions on cases pending receipt of BAC test results.

In 2008, the RMV, the MRB, and the Massachusetts Trial Court (MTC), including the District Court Department and the Boston Municipal Court Department, worked together to develop an electronic interface between the MTC and the MRB. Virtually all adjudication decisions are transferred electronically each night by MTC to the MRB. This information is used to suspend or revoke licenses and to make adjustments in the insured's automobile insurance premium when applicable. This change closed a significant gap in

communications and has substantially improved the process of using conviction data to suspend or revoke licenses and to adjust the insured's automobile insurance premium.

System Performance Measurement(s)

The RMV legacy database, ALARS, was replaced by a web-based database titled ATLAS, which was developed in cooperation with FAST Enterprises. There is a team of RMV managers and staff who meet regularly with FAST developers to monitor and improve this new system and its functionality as business operations prove the need.

System Accessibility

The 1994 Federal statute "Driver's Privacy Protection Act of 1994" dictates motor vehicle departments must adhere to with regard to driver data, and impacts the RMV's system accessibility. The RMV negotiates with agencies requesting access to data to create legally binding Memorandums of Understanding.

Training & Technical Assistance Opportunities

The RMV Training Department provides training to end users of the new system as requested and needed. FAST developers provide technical assistance as requested and needed.

Recent Developments & Challenges

The RMV implemented the first phase of its upgraded, web-based license and registration system known as ATLAS in March 2018. The Issuance License/Driver portion was successfully implemented. Release two of ATLAS to enhance the Vehicle and Registration portion was done in November 2019. The previous database, Automated License and Registration System (ALARS), contains historical data of both vehicle and operator data and can be queried, if needed. Since the ATLAS rollout, a team of system creators and RMV managers and staff meet to provide critical feedback to developers of the system to ensure data quality and control issues are addressed. The Director of Driver Licensing is integral to, and involved in, these meetings.

2.4. Vehicle Data System

System Key Points

The RMV manages vehicle title and registration information using the ATLAS system, which contains approximately seven million commercial and non-commercial registrations.

Below is registration and title issuance activity for 2017 – 2019.

2017	Registrations	1,315,412
	Titles	1,346,097
2018	Registrations	1,312,488
	Titles	1,353,886
2019	Registrations	1,284,719
	Titles	1,775,229

A registrant is identified with a Massachusetts driver license number or an assigned non-driver identification number if the registrant is not a driver.

Registration and title applications must include proof of insurance. A Manufacturer's Certificate of Origin or a previous title also must be presented along with an odometer reading as part of the title application. After receiving the registration document, plates and expiration decals, a vehicle safety inspection is required within seven days. Thereafter, annual safety inspections are required. Odometer readings are recorded in connection with safety inspections and any required emissions inspections.

Application for title must be done within 10 days of acquiring a vehicle or trailer unless the type of vehicle is exempt from titling. Information on previous title data, including brand information, is acquired through the National Motor Vehicle Title Information System (NMVTIS) of the American Association of Motor Vehicle Administrators (AAMVA). Massachusetts is a full participant in

NMVTIS enabling immediate electronic inquiries with other NMVTIS Jurisdictions. Massachusetts also uses the Electronic Lien and Title (ELT) system. ELT enables direct interactions with lien holder institutions.

Title and registration transactions are also completed by dealers, insurance companies/agents and fleet companies through the RMV's Electronic Vehicle Registration (EVR) Program using a Service Provider application that interfaces with ATLAS. Approximately 50% of the total new title and registration transactions are processed through the EVR Program.

System Performance Measurement(s)

No information provided.

System Accessibility

No information provided.

Training & Technical Assistance Opportunities

No information provided.

Recent Developments & Challenges

The new Vehicle Services portion of the ATLAS system went live on November 12, 2019. The new system introduced point of sale scanning, an automated plate inventory system, integrated case management functionality, and the expansion of service channels and business partnerships.

The rollout of Phase 3 of the EVR Program will begin in the summer of 2021. This will allow the insurance industry to complete casual/non-dealers sale transactions. The transaction will result in the issuance of a temporary plate. The customer will receive a physical plate by mail from the RMV fulfillment center.

2.5 Citation/Adjudication Data System

System Key Points

The MRB is the sole repository for all Motor Traffic Citations issued in the Commonwealth. The MRB receives copies of citations from Massachusetts police departments and courts and hearing requests and payments from violators and applies these records to an individual's driving history record.

Civil Motor Vehicle Infractions (CMVI) citations are sent directly to the MRB from the issuing police department. The MRB applies the citation to the violator's driving history record. The violator has 20 days from the date of violation to either pay the total amount due or to request a clerk-magistrate hearing. The payment or hearing request (accompanied by a \$25.00 Court Filing Fee payment) is submitted to the MRB by the violator. Failure to do either action results in late and release fees being added to the citation, as well as future suspension of their driver's license or registration. If a payment is made, it is adjudicated as an admission of responsibility. If no response is provided within 20 days, the violator is found responsible and can be charged late fees and may face additional penalties, including suspension of license.

Requests for clerk-magistrate hearings along with a filing fee are processed and a file of hearing request records is sent via batch FTP transfer to the Massachusetts Trial Court (MTC). Upon disposition, MTC transmits a file of hearing results records via batch FTP transfer to MRB. These results are uploaded to the RMV and processed, updating the operator driving history records with the submitted results. Payments from violators are processed and the citation is adjudicated as responsible.

Multiple copies of a criminal citation are delivered to the court by the issuing police department. The court forwards a copy of the criminal citation to the MRB. The MRB applies the citation to the violator's driving history record. The court is responsible for conducting a hearing and rendering a disposition in a criminal matter. Upon issuance of a disposition, the court electronically submits the findings to the MRB. Upon receipt of the disposition, the MRB updates the citation record.

While the exchange of criminal citation adjudication results and clerk-magistrate hearing requests and results between MTC and MRB is now almost exclusively electronic, much of citation processing remains a paper-based process. This includes audit sheets, which are completed by officers to account for every citation, specifically citations that are destroyed or voided.

An eCitation process, known as the Motor Vehicle Citation and Crash System (MACCS), transmits demographic and offense-specific information captured on the Massachusetts Uniform Citation electronically and this information is then validated against the ATLAS database. The data validations built into the eCitation system, in conjunction with quality controls at the MRB, have shown promising results in improving data quality.

Operators who are issued MACCS receive an eCitation Receipt on an 8.5x11 inch sheet of paper. The eCitation should be available for inspection in ATLAS within 72 hours, with 80.1% currently available for inspection within 24 hours. **As of spring 2021 there are 145 local police department issuing eCitations. Approximately, 92% of the Massachusetts State Police are issuing eCitations.**

The MRB in collaboration with the MTC continued its efforts to streamline and improve the efficiency in the processing of criminal motor vehicle violation citations by working to add Juvenile Courts and Superior Courts to the electronic file transfer process to submit criminal traffic citation judgment records to the MRB. Testing was completed and all changes to MRB applications were migrated into the ATLAS production environment. All Juvenile Courts and 10 Superior Courts are now submitting electronic records to the MRB.

The RMV/MRB is able to promptly suspend/revoke the driver license of individuals found guilty of criminal charges by these courts. These efforts rectify any lapses in updating driving history records and ensure future records are current and sanctions promptly applied.

The registrant is identified with a Massachusetts driver license number or an assigned non-driver identification number if the registrant is not a driver.

System Performance Measurement(s)

The RMV legacy database, ALARS, was replaced by a web-based database titled ATLAS, which was developed in cooperation with FAST Enterprises. There is a team of RMV managers and staff who meet regularly with FAST developers to monitor and improve this new system and its functionality as business operations prove the need.

System Accessibility

Statutes require the MRB collect, gather, and compile citation data for drivers.

Training & Technical Assistance Opportunities

The RMV Training Department provides training to end users of the new system as requested and needed. FAST developers provide technical assistance as requested and needed.

Recent Developments & Challenges

As of early spring 2021, the Massachusetts State Police and 145 local police departments are issuing eCitations. eCrash reporting submissions are limited at this point.

On February 23, 2020, the Hands-Free Law went into effect. As a result of the new law, the MRB begun processing warnings. On April 1, 2020, the law enforcement began to cite fineable offenses under the Hands-Free law. **As of April 2021, there have been 31,601 warnings issued for a violation of the Hands-Free law.**

Opportunities exist for improving linkages among various system components – such as adjudications with both the vehicle and crash files, which could improve the efficiency of vehicle-based administrative suspensions and revocations, as well as to increase the ability of the data in the system to support research. These opportunities will continue to be investigated.

2.6 Injury Surveillance/EMS Data System

System Key Points

Massachusetts Ambulance Trip Record Information System (MATRIS) – managed by MDPH collects Emergency Medical Services (EMS) trip information that complies with the National EMS Information System (NEMSIS) dataset. The department is currently collecting both NEMSIS V2 data and NEMSIS V3, as the V3 system launched 2/28/19. As of 3/31/21, 301 out of 310 licensed ambulance services had migrated and were submitting data to MATRIS NEMSIS V3 and 304 were approved to make the migration. The remaining will be migrated in the coming months. The NEMSIS V3 data is superior to the V2 data because DPH developed comprehensive Schematron validation rules that are enforced as criteria for acceptance to MATRIS. After all of the services complete the migration to NEMSIS V3, DPH will review the data quality and determine updates needed to the Schematron validation rules to continue to improve quality. In FY 2020, DPH developed an RFR to contract with a vendor for hosting of the MATRIS infrastructure to address gaps in functionality and improve efficiency. Responses from vendors were received by the due date 3/12/20. The responses were reviewed, and a contract developed with the selected vendor. The contract will be fully executed in spring 2021. Migration to the vendor hosted infrastructure will be completed in FY 2021 and then DPH will begin to submit the NEMSIS V3 data to the NEMSIS national repository.

Massachusetts Hospital Case-Mix Data – Hospital Inpatient discharge data (HID), outpatient emergency department (ED) visit, and outpatient observation stay data, collectively referred to as “Case-mix Data”, and are submitted by all Massachusetts acute care hospitals to the Center for Health Information and Analysis (CHIA). The relevant data include ICD-9-CM or ICD-10-CM/PCS codes and cause codes (E-codes in ICD-9-CM and V00-Y99 in ICD-10-CM/PCS), patient demographics, a unique patient identifier, hospital facility, dates of medical care, length of stay, discharge disposition, services and procedures performed and hospital charges. Diagnosis codes describe the nature and body location of injuries and other medical conditions. Cause codes describe the injury mechanism, place and type of person injured in a crash, e.g. MV occupant, pedestrian, cyclist, etc. One year prior to ICD-10 implementation (in FY2015), CHIA eliminated the limit on the number of diagnosis and procedures that code be submitted with HID and ED data. The limit was not lifted on OS data. To

maximize efficiency in running its analytic file, MDPH limits the number of diagnosis and cause code fields in the analytic files associated with these data sources to 30 codes, but as special analyses as needed, MDPH can access the unlimited code source. Outpatient observation stay data continue to include only 6 diagnosis and E-code fields, although in response to a request from the MDPH, CHIA enhanced this data to add a field for principal cause code in observation stay data in FY 2017. CHIA also continues to add enhancement to the HID data by providing multiple versions of APR-DRGs and CMS-DRGs with facilitate risk adjusted cost analysis.

With the implementation of ICD-10-CM/PCS in October 2015 (FY2016), the available cause codes for any cause MV related or non-MV related increased from 1,465 code in ICD-9-CM to 10,037 codes in ICD-10-CM, improving specificity of information the cause of injury. For example, in ICD-10-CM, there is enough coding granularity to distinguish whether a pedestrian on standing electric scooter is injured in collision with two- or three-wheeled motor vehicle in traffic accident and crushed between a stationary object. ICD-10-CM codes also distinguishes “initial ” encounter for treatment of injuries from subsequent follow-up care, which were not fully differentiated in ICD-9-CM.

Massachusetts All Payer Claims Database (MA APCD) - includes health insurance claims data collected from commercial payers, third party administrators and public programs (Medicare and MassHealth (the Massachusetts’ Medicaid program) by the CHIA. Due to state health care reform law which had the aim of providing health insurance to all residents, Massachusetts leads states with the most complete population insurance coverage, 97% of its residents have health insurance. Therefore, the MA APCD is one of the most comprehensive sources of state health claims data from public and private payers in Massachusetts. These data sets come both from medical insurers and from specialty insurers and administrators of “carved-out” services including pharmacy, mental health/chemical dependency, dental, and vision. While several states have All Payer Claims Databases, the MA APCD has a unique focus on the efficiencies to be achieved by having a single independent agency (the Center for Health Information and Analysis)- as opposed to multiple state agencies. While the case mix data collects data only from Massachusetts acute care hospitals, the MA APCD includes health care data from all health care providers regardless of care settings regardless or geographic location. The ambulance, ED, hospitalization, rehab, and pharmaceutical claims for Massachusetts motor vehicle crash victims receiving care in state and out of state are all in the Massachusetts

APCD. CHIA has also enhanced the MA APCD by creating a member link entity identifier which enables cross carrier analysis. This type of enhancement facilitates analysis of injured patients across the entire continuum of care from prehospital care to rehabilitation even if the patient changes insurance carriers.

Trauma Registry - collected by MDPH, all hospitals that treat trauma patients submit data on all trauma inpatient discharges, all trauma observation stays, and trauma ED visits for patients who die or are transferred from the ED. These data include patient blood pressure, respiratory rate, pulse, protective devices, airbag deployment, child specific restraints, cause of injury and location of injury codes, hospital-based drug and alcohol test results, injury date, injury city, mode of transport to hospital, abbreviated injury scale (AIS), Glasgow coma scores, complications, and comorbidities. After submission by hospitals, MDPH may add other fields such as geocoded census data and several survival probability metrics including revised trauma score, shock index, injury severity score, new injury severity score, and AIS-based trauma mortality prediction model using up to five worst injuries, ICD-9-CM-based trauma mortality prediction model, and an indicator for multiple injuries to the same body region. The system was upgraded to include approximately 60 data elements with ICD-10-CM and AIS 2005/2008 in 2016. Enhancements were also made in 2017 to meet the NTDB 2016 and 2017 updates and ability to accept multiple submission years simultaneously.

Traumas reported to the Massachusetts Trauma Registry by Federal Fiscal Year (FFY) *		
FFY2016	FFY2017	FFY2018
89,884	55,543	61,507

*Massachusetts Trauma Registry, current as of January 22, 2020

Traumas by Federal Fiscal Year (FFY) *			
FFY2017	FFY2018	FFY2019	FFY2020
24,947	27,465	22,578	15,685

*Massachusetts Trauma Registry, current as of February 17, 2020, some submissions are still pending

During the FFY 2019, additional upgrades were made to conform to new National Trauma Databank (NTDB) data submission requirements. Comorbidity and

complications fields were removed in accordance with NTDB requirements and replaced with yes/no indicator fields. The option to enter 'not recorded' or 'unknown' for some fields was added and new fields were included to allow entry of Initial Field GCS, if collected. The Drug Screen field was also updated to capture when a patient had more than five classes of drug detected on a toxicity screen. Finally, the edit check on a small number of fields were adjusted to require a high level of completion in each quarterly submission. During FFY2020 the Trauma Registry will work with the TRCC to provide performance measure and data quality management reports.

During FFY 2020, a procurement process was completed to select a vendor to modernize the trauma registry data submission process, allowing for timelier, complete, and accurate trauma data submission and analysis. A new vendor was selected, and a new system will be implemented by spring 2021. The MDPH portal used since 2008 will not be used for data submissions for FFY 2021 forward. The portal will continue to accept submission for FFY 2020 and earlier to allow complete submissions for FFY 2016-2020. The new trauma registry system uses a web-based interface allowing for direct entry and data upload of trauma submissions. There will be built-in reporting for facility and state level users and is produced by a United States Trauma Vendor Association member. Reporting will support data quality activities intended to provide real time feedback on trauma data submissions to ensure accurate and complete data. State level reports available to DPH staff will be used to track the timeliness of these reports.

During FFY 2021 the Department has worked with ESO, our new Trauma Registry vendor, to design and implement the new registry. Data migration from the old trauma registry database to the new web-based system has also be planned and will be completed in Fall 2021. The new registry is aligned with the American College of Surgeons National Trauma Data Standard and includes custom Massachusetts State fields. The new web registry also includes integrated reporting tools that will allow hospital partners to view data in real time and compare to a Massachusetts benchmark. Reports are being developed to ensure data quality, uniformity, and timeliness. The new Massachusetts Trauma Registry is expected to Go Live in Spring 2021 and ultimately will include all hospital trauma data submitted since 2008.

Death Certificates - The Massachusetts Registry of Vital Records and Statistics collects certificates for all deaths that occur within Massachusetts as well as deaths

of Massachusetts residents that occur outside of the Commonwealth. Vital Information Partnership (VIP) is the electronic death registration system. Relevant data include ICD-10 diagnostic codes for underlying and secondary causes of death (which describe injury cause, MV-person type, the nature and body location of injuries and other conditions present) patient demographics and date of death.

Behavioral Risk Factor Surveillance System (BRFSS), Youth Risk Behavior Survey (YRBS) and Youth Health Survey (YHS) – These anonymous surveys collect statewide estimates on self-reported behaviors either annually (BRFSS) or bi-annually (YRBS and YHS). The BRFSS is a telephone survey administered to a sample of adult MA residents ages 18 and up. The YRBS and YHS are written surveys administered to a sample of MA public high school students, with the YHS also administered to public middle school students. Specific questions related to motor vehicle injuries include seat belt use (BRFSS, YRBS, YHS), riding in a car driven by someone who had been drinking alcohol (YRBS, YHS middle school), riding in a car driven by someone who had been smoking marijuana (YHS middle school), driving a car after drinking alcohol (BRFSS, YRBS, YHS), driving a car after smoking marijuana (YHS), talk on a cell phone while driving (YRBS), texting while driving (YHS), texting or emailing while driving (YRBS) and drowsy driving (YHS). Responses can be broken down by respondent demographics and other risk behaviors.

System Performance Measurement(s)

MDPH has a benchmark/performance measure to evaluate the completeness of the MATRIS data by tracking the number of ambulance services submitting Version 3 reports to the system. **For FFY 2021, the benchmark/performance measure was to improve completeness of MATRIS by increasing the number of ambulance services submitting NEMSIS Version 3 reports to the system from 213 between 4/1/19 to 3/31/20 to 300 between 4/1/20 to 3/31/21. As of 3/31/21, 301 out of 310 licensed Ambulance services had migrated and were submitting data to MATRIS NEMSIS V3 and 304 were approved to make the migration.**

MDPH has a benchmark/performance measure to evaluate the timeliness and completeness of the Trauma Registry (TR) by tracking failed electronic submissions from hospitals before a successful submission to the system occurs. For FFY 2019, the benchmark/performance measure was to improve timeliness and completeness of the TR by decreasing the number of failed electronic submissions from hospitals

from > 3 failures before a success (based on NTDS as the primary requirement) during the baseline period of 4/1/17 to 3/31/18 to ≤ 3 failures before a success during the performance period 4/1/18 to 3/31/19.

During the baseline period of 4/1/2017-3/31/2018, on average, there were 5 failures for 2016 submissions and 2 failures for 2017 submissions before successful data submission. From 4/1/2018 to 3/31/2019, there were on average 2 failures for 2017 submissions and 1 failure for 2018 submissions before a facility successfully submitted data. Overall this represents an improvement over the baseline period, demonstrating that facilities are successfully submitting data in fewer tries. During this period, MDPH provided technical assistance to facilities who experienced difficulties with submissions. For FFY 2019 significant changes are being made to the Registry, which may impact measure performance until facilities have developed extracts that contain new fields.

MDPH has a benchmark/performance measure to evaluate the timeliness of the Trauma Registry by tracking ‘trial and error’ electronic submission time for hospitals during the annual updates of ICD-10 coding and NTDS data dictionary changes. For FFY 2019, the benchmark/performance measure was to improve the timeliness of the TR by decreasing the ‘trial and error’ electronic submission time for hospitals during the annual updates of ICD-10 coding and NTDS data dictionary changes (2016 to 2017/2018) from 9 + months during the baseline period of 4/1/17 to 3/31/18 to 5 months during the performance period 4/1/18 to 3/31/19.

During the baseline period, there were too few successful submissions to create a reliable measure for comparison. Instead, data submissions were separated into TR submissions for 2016, 2017, and 2018 and the trial-and-error period was calculated for submissions from 4/1/2018-3/31/2019. For TR year 2016 submissions, facilities had a mean trial and error time of 13 months, compared to 3 months for submission year 2017, and 1 month for submission year 2018. This demonstrates that the trial-and-error period has decreased considerably over the three most recent Trauma Registry iterations

The trial and error and pass/fail benchmarks for the TR have been retired due to the dramatic change in data elements from FFY 2018 to FFY 2020.

Proposed FFY 2021 Performance Measures – MA Trauma Registry

Performance measure 1: Number and percentage of trauma designated facilities currently up-to-date on data submissions. Once submissions to the newly implemented registry have begun, the TR program will track trauma reporting by

quarter and quantify the number of facilities submitting data within three months of quarter closure. The current benchmark for this new system is 0 facilities submitting trauma data within three months of quarter close.

Performance measure 2: Number and percentage of community hospitals currently up to date on data submissions by trauma center designation. Once submissions to the newly implemented registry have begun, the TR program will track trauma reporting by quarter and quantify the number of facilities submitting data within three months of quarter closure. The current benchmark for this new system is 0 facilities submitting trauma data within three months of quarter close.

In 2019 and 2020, the MDPH Office of Data Management and Outcomes Assessment (ODMOA) developed a new process to assess the quality of Hospital Case-mix data received from the Center for Health Information and Analysis (CHIA). The results of these assessments are summarized in standard reports available to MDPH epidemiologists. ODMOA communicates any serious data quality problems to CHIA and requests a new file. ODMOA also standardizes variable names and formats across the three data types (hospital discharge, emergency department discharge, and observation stay data) in the datasets analyzed by the Injury Surveillance and other programs.

System Accessibility

MATRIS data is summarized and reported for quarterly opioid surveillance statistics. These reports are posted to the Mass.gov website and available to the public at <https://www.mass.gov/lists/current-opioid-statistics>. The MATRIS NEMSIS V3 data are being incorporated into the DPH Public Health Information Tool which will allow the public to extract aggregate de-identified data from the website <https://www.mass.gov/orgs/population-health-information-tool>. Data use agreements have been completed and data sets are being prepared to contribute. In SFY 2021 the data will also be submitted to the NEMSIS national repository making it accessible for the national dashboards and available for national IRB use. MATRIS data will be shared with the Injury Surveillance Program for linkage with Crash, Hospital and Trauma Registry data and incorporated in the Crash Related Injury Surveillance System. MATRIS data has been shared in previous years via the IRB process with other TRCC members and integrated with Crash data for analysis; provided to the Motorcycle Safety

program for inclusion in training materials and conference presentation. The department has participated in MA Strategic Highway Safety Plan Emphasis Area workgroups

The newly-procured Massachusetts TR is intended to be more user friendly and allow for easier data submissions. By selecting a national trauma vendor who adheres to the IDTX trauma submission format, the new TR will streamline submissions for trauma centers using hospital-based trauma vendor software. Community hospitals with no trauma registry will receive DPH and vendor-based support submitted their data.

Trauma Centers will be able to extract pre-validated data from their hospital-based registries and upload directly to the new web-based Massachusetts Trauma Registry, provided by ESO. The universal IDTX format supports high-quality, uniform data meeting the national data standards. Community hospitals will have DPH and vendor support to create files, under the same standards, from their medical records systems. These data can either be direct data entered into the trauma registry web-portal, or uploaded using the same process as trauma centers.

The MDPH Injury Surveillance Program (ISP) uses MA Hospital Case-mix, Death, BRFSS, YRBS, and YHS data to analyze MV-traffic injuries and risk factors, and produces and disseminates various data products that include MV injury data. These data are available to the public at:
<https://www.mass.gov/injury-surveillance-program>. BRFSS reports are available at: **<https://www.mass.gov/behavioral-risk-factor-surveillance>**. YRBS reports are available at: **<https://www.doe.mass.edu/sfs/yrbs>** and YHS reports are available at: **<https://www.mass.gov/lists/massachusetts-youth-health-survey-myhs>**.

Traffic safety stakeholders and others can also make specific data requests to ISP. ISP also frequently presents MA MV injury data at stakeholder meetings, such as MA Strategic Highway Safety Plan Emphasis Area workgroups and MA Traffic Safety Coalition meetings.

Training & Technical Assistance Opportunities

The Massachusetts TR procurement includes training for all hospital-based users. Once TR implementation is complete, training will be provided by the vendor.

ESO, the trauma registry vendor will provide two general trainings, one trauma center specific and one community hospital specific training. These will be recorded and made available to our hospital partners. Additional user guides and manuals will also be available to users. ESO and DPH staff will be available to assist as facilities come online and begin submitting data to the new Massachusetts Trauma Registry.

Recent Developments & Challenges

In FY 2020 the migration of ambulance services from NEMSIS V2 to NEMSIS V3 required that the services had submitted all of their data to NEMSIS V2 from 2013 until the date they migrated. Ambulance services that had previously used 3rd party software vendors that no longer support their products and do not have a NEMSIS V3 offering posed a significant challenge for locating and importing missing data. Supporting services through the process was more complex and took longer than anticipated with extensive outreach efforts from all levels of management. In FY20 and FY21 COVID -19 posed challenges for ambulance services and electronic Patient Care Reporting(ePCR) vendors to complete this process.

A Trauma Registry Legacy dataset, combining all registry data through federal fiscal year (FFY) 2015, has been compiled and shared with the Injury Surveillance Program for linkage to other data sources. These data are being checked for quality and completeness and have been included in updates and analyses for the Trauma Systems Committee that meets on a quarterly basis. A data dictionary for the legacy dataset has been developed and reviewed and data specification guides are released annually to inform facility data submission.

Upgrades to MATRIS with NEMSIS V3 will include new fields that will facilitate matching of MATRIS and Trauma Registry data, linking EMS and hospital interventions. The NEMSIS V3 data is imported in a timelier manner, often with a day, due to the added requirement in the standard for ePCR software to automate importing to the state system, MATRIS. The data quality has improved as a result of a superior validation rule execution process implemented

in V3 where the state rules are packaged into a file and integrated on the ePCR software used by the ambulance services. This process is managed with a technology called Schematron.

Due to the development of a new system to assess and clean MA Hospital Case-mix data, the MDPH Injury Surveillance Program (ISP) was unable to access final data for fiscal years (FY) 2016 – 2018 until September 2020. FY 2019 hospital discharge and emergency department discharge data became available in December 2020. It also took time for ISP to update its software codes for analyzing the Hospital Case-mix data due to the transition from ICD-9-CM to ICD-10-CM diagnosis and external cause codes. We anticipate that final motor vehicle injury data will be available soon for analysis and use in data requests.

2.7 Data Use and Integration

- UMassSafe’s Data Linkage Project linked EMS and Crash Data was concluded in December 2018. A final project report from March 2019 is available at www.mass.gov/service-details/traffic-records.
- In FFY 2019 a MassDOT-MDPH’s Statewide Crash-Injury Data Linkage Project on Mass Roadways worked to validate and improve the data linkage algorithm and begin analysis of driver alcohol and drug impairment. Through a medical record review, the MDPH Injury Surveillance Program (ISP) identified valid reasons why Hospital Discharge cases did not match any crash record in about 75% of non-matching cases, e.g. the crash occurred out-of-state or the visit was a follow-up. The medical record review also revealed that many true matches were being excluded from the linked dataset due to missing sex in Crash data and the same individual having different addresses in each dataset. The linkage algorithm was revised to allow for missing sex and not require a location match. Subsequent linkage rates by person-type increased by 15-17 percentage points. Linkage rates with Crash data and Hospital Discharge data, based on hospitalized persons, were: 61% of MV-occupants, 53% of motorcyclists, 48% of cyclists and 44% of pedestrians. Currently ISP is developing indicators for alcohol and drug use by MV drivers and motorcycle operators in the linked Crash-Hospital

Discharge data, and developing SAS programming to link data from all persons involved in a crash. Additional information about this project can be found in Section 4.

Significant progress has been made with this data linkage project, which is now named the MA Crash-Related Injury Surveillance System (CRISS). Currently the MDPH Injury Surveillance Program (ISP) has linked 2012-2017 MA crash data with all three MA Hospital Case-mix data sets (hospital discharges, ED visits, and observation stays). ISP has conducted several analyses of these data, which focused on alcohol and drug intoxication in hospitalized drivers and non-motorists; driver and crash-related factors associated with sustaining a traumatic brain or spinal cord injury in a crash; driver and crash-related factors associated with higher hospital charges; and association between selected driver's medical conditions and risk of multiple crashes. ISP has developed several data briefs based on these results, which will be disseminated broadly to traffic safety stakeholders after completing the MDPH review process.

The MDPH ISP also received a one-year grant from the Centers for Disease Control and Prevention (CDC) in 2019 that supports steps to link additional data sets to MA CRISS. These steps include establishing data use agreements, accessing new data sources, and developing and validating data linkage algorithms. Additional data sources that ISP plans to link to MA CRISS are Trauma Registry, MA Ambulance Trip Record Information System (MATRIS), Death Certificate, Post-mortem Toxicology, Drivers License/History, and Citation/Adjudication data. ISP hopes to complete data use agreements for these data sources in 2020.

In 2019 the MA Department of Public Health released the Population Health Information Tool (PHIT) at www.mass.gov/guides/phit-data-injuries-in-massachusetts. This tool allows the public to query MA health data. The PHIT includes data on unintentional MV-traffic hospitalizations, ED visits and deaths for MV-occupants, motorcyclists, cyclists and pedestrians. The website can provide maps and graphs of selected data. Data can be broken down by sex and geographic region. Currently 2007-2014 MA data are available.

In addition, work is underway to integrate MATRIS data into PHIT during FFY 2021. This will allow more detailed data exploration of MATRIS data by the public. Data can be displayed and aggregated by

geographic regions, or by demographic characteristics.

- Public access to data in the CDS is through the IMPACT Crash Data Portal at <https://apps.impact.dot.state.ma.us/cdp/home>. As of 5/10/21 IMPACT has been viewed 31,521 times and used 25,769 times for data by engineers, police, MPOs/RPAs, health professionals, researchers, lay people and others.

2.8 Related Planning Documents/Resources

- MassDOT's Strategic Highway Safety Plan at www.mass.gov/service-details/strategic-highway-safety-plan
- MassDOT's State Transportation Improvement Program at www.mass.gov/service-details/state-transportation-improvement-program-stip
- MassDOT's Highway Safety Improvement Plan at www.mass.gov/service-details/highway-safety-improvement-program
- MassDOT's Highway Safety Improvement Plan (2020) at safety.fhwa.dot.gov/hsip/reports/pdf/2020/ma.pdf
- MA State Police's Commercial Motor Vehicle Plan at www.mass.gov/orgs/massachusetts-state-police
- MA DOE and MDPH's MA Youth Risk Behavior Survey at www.doe.mass.edu/sfs/yrbs/
- MDPH's MA Youth Health Survey at www.mass.gov/lists/massachusetts-youth-health-survey-myhs
- OGR's Highway Safety Plan, Safety Belt Survey and Cell Phone Survey at www.mass.gov/orgs/office-of-grants-and-research

3.0 Traffic Records Assessment

In January 2019, OGR with TRCC assistance finished a NHTSA-approved Traffic Records Self-Assessment for Massachusetts, guided by NHTSA's *Traffic Records Program Assessment Advisory, 2018 Edition*. NHTSA requires states to conduct or update an assessment of their highway safety data and traffic records systems every five years in order to qualify for federal Section 405(c) grant funding from NHTSA.

This section includes the resulting recommendations from the 2019 assessment. After each one there is information (bolded and underlined) about what Massachusetts is or is not planning to do in regard to the recommendation in FFY 2022.

Where action is being taken, the entry will highlight if the effort involves a Section 405-c funded project included in OGR's proposed FFY 2022 Highway Safety Plan (HSP) and in Section 4 of this plan. Such an entry needs to address an unmet recommendation from the 2019 assessment, improve a minimum of one performance attribute (accessibility, accuracy, completeness, integration, timeliness, and uniformity) of a core system, and have at least one benchmark and performance measure. Ideally the project also provides a benchmark and performance measure that can demonstrate quantitative improvement in an attribute of a core system as described in the Section 405-c FAST Act funding guidance.

If the Commonwealth is unable to address a recommendation in FFY 2022, this will be explained (bolded and underlined) below in this section. As of May 2021, work being done to address these recommendations, or to apply for 405-c funding opportunities to do so, is still being negatively affected by the COVID-19 state of emergency. Even if not specifically cited below, it is anticipated COVID-19 will continue to have a detrimental impact on efforts to address these recommendations for the balance of 2021.

With its FFY 2022 Section 405-c application, Massachusetts is proposing one performance measure to show quantitative improvement in the performance attribute of a core system. This measure was developed using NHTSA's *Model Performance Measures for State Traffic Records Systems, 2011 edition* and the Section 405-c FAST Act funding guidance. This measure was also provided to

NHTSA separately in an Interim Progress Report as part of our 405-c application.

The measure shows improvement in completeness of the MDPH's Massachusetts Ambulance Trip Record Information System (MATRIS). The improvement achieved was an increase from 213 ambulance services with National Emergency Medical Services Information System (NEMSIS) compliant electronic data collection modules and software submitting Version 3 data records to MATRIS between 4/1/19 to 3/31/20 to 301 services between 4/1/20 to 3/31/21. As of the end of March there were 310 services in Massachusetts.

Developing similar measures for other core systems and projects of the Commonwealth will be a focus for our TRCCs in FFY 2022.

OGR conducted in early 2021 an Availability of Grant Funds (AGF) process to identify new projects to use FFY 2021 and earlier Section 405-c funding. With TRCC input, six projects to help address recommendations from the 2019 Assessment were identified for 405-c funding in April 2021. Three of these projects were later approved by NHTSA for the Massachusetts FFY 2021 Highway Safety Plan. One project is expected to be completed within FFY 2021. The other two projects will continue and need to be part of the FFY 2022 HSP. The six projects identified in spring 2021 are referenced throughout the section below and in Section 4 of this plan.

3.1 Traffic Records Coordinating Committee Management

The 2019 assessment did not have any related recommendations for TRCC management.

However, the TRCC still needs to continue to work on developing benchmarks and performance measures for its six core traffic records systems. Also, to better highlight and address unmet technical assistance and training needs for all six systems.

For the FFY 2022 405-c application, the Massachusetts TRCCs had to meet the requirement for receipt of Section 405-c funding by meeting a minimum of three times before the application submission. Since the submission of the last Section 405c application in July 2020, the ETRCC met on 12/14/20, 4/6/21, and 5/18/21. The WTRCC met on 1/1/21.

3.2 Strategic Planning

The 2019 assessment did not have any related recommendation for Strategic Planning.

3.3 Crash System

The 2019 Traffic Records Assessment identified the following recommendations:

1. *Improve the applicable guidelines for the Crash Data System (CDS) that reflect best practices identified in the Traffic Records Program Assessment Advisory.*

MassDOT/IT and RMV hope to release a state-funded procurement effort through a Request for Response for a new CDS in CY 2021. This recommendation will be addressed in the new crash system. At this time no 405-c grant funded work on this recommendation is planned for FFY 2022.

2. *Improve the interfaces with the CDS that reflect best practices identified in the Traffic Records Program Assessment Advisory.*

The new CDS Request for Response will include the ability to interface between the new state-funded CDS and FARS to provide more timely and complete fatality data in microcomputer data entry. At this time no 405-c grant funded work on this recommendation is planned for FFY 2022.

3. *Improve the data quality control program for the CDS that reflect best practices identified in the Traffic Records Program Assessment Advisory.*

Additional quality control measures for attributes will be addressed

with the development of a new state-funded CDS.

However, the currently Section 402-funded MACCS project, managed by the Department of Criminal Justice Information Services, continues to improve the accuracy, completeness, timeliness, and uniformity of the Crash Data System by increasing the quantity and quality of eCrash Reports submissions. Better integration between MACCS, the Crash Data System, and local law enforcement records management systems is also being achieved through the project, and it is hoped this will lead to greater eCrash Report submissions.

The Section 405-c Crash Report Training Improvement Project of the Mass State Police with UMassSafe assistance will result in better accuracy, completeness, timeliness, and uniformity for the Crash Data System in FFY 2022. Improved crash reporting curriculums for new and current MSP personnel are expected to be implemented starting in fall 2021.

Section 405-c funded projects to address in part this recommendation are described in the FFY 2022 Highway Safety Plan and Section 4 of this plan under TR 22-01, TR 22-02, and TR 22-03.

3.4 Roadway

The 2019 assessment identified the following recommendations:

1. *Improve the data dictionary for the Roadway Data System (RDS) that reflect best practices identified in the Traffic Records Program Assessment Advisory.*

As reported in Section 2.2, MassDOT's Office of Transportation Planning continues work on its data dictionary for this system. At this time no 405-c grant funded work on this recommendation is planned for FFY 2022.

2. *Improve the data quality control program for the RDS that reflect best practices identified in the Traffic Records Program Assessment Advisory.*

MassDOT's Office of Transportation Planning has a GIS team member

serving as GIS QC Coordinator. This position is now documenting our data management processes as well as developing metadata standards. GIS QC Coordinator meets regularly with Road Inventory editors to understand their workflows and install best practices throughout the process. At this time no 405-c grant funded work on this recommendation is planned for FFY 2022.

3.5 Driver

The 2019 assessment identified the following recommendations:

1. *Improve the data dictionary for the Driver Data System (DDS) that reflect best practices identified in the Traffic Records Program Assessment Advisory.*

With creation of the new RMV database, ATLAS, by FAST Enterprise, improvements were made to ensure the integrity of data fields for person, vehicle, violations, etc. by expanding field level validation. Use of third-party tools such as NADA were implemented to improve the accuracy and completeness of vehicle descriptions. For person identity, checks with NAPHSIS, DPH Vital Statistics, CIS (SAVE), SPEX (S2S), USPVS (Passport checks) were implemented. The data dictionary is proprietary and maintained by FAST Enterprises.

At this time no 405-c grant funded work on this recommendation is planned for FFY 2022.

2. *Improve the data quality control program for the Driver data system that reflect best practices identified in the Traffic Records Program Assessment Advisory.*

UMassSafe has been awarded 405-c funding for work in FFY 2022 that will provide an up-to-date audit function and recommendations for on-going data audits. The project is titled: "Improving Traffic Safety Analyses through Data Quality Assessments as well as Driver and Vehicle Data Integration."

The data analysis from the proposed project will result in recommendations for the RMV to examine the accuracy, completeness, and integration of data among three of its datasets: crash, driver, and vehicle. The 2019 Assessment identified that the RMV partially-meets advisory ideals for the Driver data system that will be met with the

project work. In addition to addressing driver system issues, the analysis from this effort will prove invaluable to potential design and creation of a new, more comprehensive and integrated crash data system at the RMV involving crash, driver, and vehicle datasets.

A Section 405-c funded project to address in part this recommendation is described in the FFY 2021 Highway Safety Plan and Section 4 of this plan under TR 22-06.

3.6 Vehicle

The 2019 Traffic Records Assessment identified the following recommendations:

1. *Improve the interfaces with the Vehicle Data System (VDS) that reflect best practices identified in the Traffic Records Program Assessment Advisory.*

The RMV's new operating system, ATLAS, although rolled out in March 2018, is still being configured for reporting and data quality purposes.

At this time no 405-c grant funded work on this recommendation is planned for FFY 2022.

2. Improve the data quality control program for the VDS that reflect best practices identified in the Traffic Records Program Assessment Advisory.

The RMV's new operating system is being implemented in two parts: Driver/person – March 2018, Vehicle - November of 2019. The new system has many quality control features.

At this time no 405-c grant funded work on this recommendation is planned for FFY 2022.

3.7 Citation / Adjudication

The 2019 assessment identified the following recommendations:

1. *Improve the description and contents of the Citation and Adjudication systems that reflect best practices identified in the Traffic Records Program Assessment Advisory.*

The Merit Rating Board (MRB), the state-level organization with lead responsibility for the citation data system, has recently had to contend with a number of serious organizational challenges. A new director was recently appointed, and with COVID19 impacts, it prevented the MRB from applying recently for available 405-c grant funding to address this and other recommendations.

At this time no 405-c grant funded work on this recommendation is planned for FFY 2022.

2. *Improve the data dictionary for the Citation and Adjudication systems that reflect best practices identified in the Traffic Records Program Assessment Advisory.*

The Merit Rating Board (MRB), the state-level organization with lead responsibility for the citation data system, has recently had to contend with a number of serious organizational challenges. A new director was recently appointed, and with COVID19 impacts, it prevented the MRB from applying recently for available 405-c grant funding to address this and other recommendations.

At this time no 405-c grant funded work on this recommendation is planned for FFY 2022.

3. *Improve the data quality control program for the Citation and Adjudication systems that reflect best practices identified in the Traffic Records Program Assessment Advisory.*

The Merit Rating Board (MRB), the state-level organization with lead responsibility for the citation data system, has recently had to contend

with a number of serious organizational challenges. A new director was recently appointed, and with COVID19 impacts, it prevented the MRB from applying recently for available 405-c grant funding to address this and other recommendations.

However, the currently Section 402-funded MACCS project, managed by the Department of Criminal Justice Information Services, continues to improve the accuracy, completeness, timeliness, and uniformity of the Citation System by increasing the quantity and quality of eCitation submissions. Better integration with local law enforcement records management systems is also being achieved through the project.

A Section 405-c funded project to address in part this recommendation is described in the FFY 2022 Highway Safety Plan and Section 4 of this plan under TR-22-03.

3.8 Injury Surveillance/EMS

The 2019 assessment identified the following recommendations:

1. *Improve the interfaces with the Injury Surveillance systems that reflect best practices identified in the Traffic Records Program Assessment Advisory.*

The RMV and DPH looked into creating an interface between EMS and RMV data for the Massachusetts Fatality Analysis Reporting System (FARS) project. A statute change is required to allow sharing of the EMS data. Other interfaces would require significant funding.

Section 2.7 describes the DPH ISP MA CRISS (Crash, Hospital Case-mix, Trauma Registry, MA Ambulance Trip Record Information System (MATRIS), Vital Statistics (deaths), Post-mortem Toxicology, Drivers License/History, and Citation/Adjudication data) in more detail. This currently non-405-c funded project is helping in part to meet this recommendation.

Currently the Trauma Registry has begun the work of linking Trauma Registry data with data sources that contain outcomes. The planned matches will use propensity score matching (a commonly used method) to link Death Data and Case Mix Hospital inpatient and ED discharge data. An extract has been received of relevant Death Data

and this match scheduled first, followed by an attempted Case Mix match.

As of Spring 2021, trauma data have been successfully matched to 2015 Case Mix and 2016 Vital Statistics data. These have been used to identify additional trauma mortality not captured in the trauma registry due to hospital discharge or repeat admissions for the same injury. Additional work is being performed to expand these matches to additional years of data.

Section 405-c funded projects to address in part this recommendation are described in the FFY 2022 Highway Safety Plan and Section 4 of this plan under TR-22-07 and TR 22-08.

2. *Improve the data quality control program for the Injury Surveillance systems that reflect best practices identified in the Traffic Records Program Assessment Advisory.*

Hospital Case-mix and Vital Records have effective data quality control measures in place. The additional data quality assessments MDPH established in 2020 will further improve the quality and consistency of Hospital Case-mix data. MATRIS sends monthly data quality reports to all ambulance services and regularly works with ambulance services to improve their quality. MATRIS data quality control has further improved with the migration to NEMSIS V3 that allows for rejection of records that do not meet quality standards. In SFY 2021 MDPH plans to review the over 200 rules and make needed revisions. Beginning in 2016, trauma data submitters receive automated data quality reports and whether a data submission was accepted. Additionally, in FFY 2021 the Trauma Registry plans to provide the TRCC with data quality reports.

Section 405-c funded projects to address this recommendation are described in the FFY 2022 Highway Safety Plan and Section 4 of this plan under TR-22-07 and TR 22-08.

3.9 Data Use and Integration

The 2019 assessment identified the following recommendation:

Improve the traffic records systems capacity to integrate data that reflect best practices identified in the Traffic Records Program Assessment Advisory.

The integration of traffic record systems is being addressed by the MDPH MA Crash-Related Injury Surveillance System (MA CRISS). This system of linked data (originally called the Statewide Crash-Injury Data Linkage Project on Mass Roadways) was initially developed in 2016 with funding from MassDOT. It received additional funding from MassDOT in 2018-2020 and from the CDC in 2019-2021. See Section 4 for further details of the Section 405-c funded phase of this project.

In FFY 2022 the MATRIS system will be migrated to the NEMSIS V3.5 standard. A new feature to this release is the Universally Unique ID(UUID) that will identify an EMS run with a unique ID. This value is also included in the new ACS National Trauma Data Bank requirements and will facilitate linkage

The Universally Unique identifier has already been incorporated in the FFY 2021 Massachusetts Trauma Registry and is ready to accept this linkage data element at soon as it is available to hospital partners.

Data integration will also be addressed in FFY 2022 through further planning/discussion by the TRCC.

Section 405-c funded projects to address in part this recommendation are described in the FFY 2022 Highway Safety Plan and Section 4 of this plan under TR 22-05, TR 22-06, TR-22-07, and TR 22-08.

4.0 Traffic Records Projects

This section lists projects planned for FFY 2022 as well as recently completed projects. This section details whether projects are funded through Section 405-c funding or other sources of funding.

For Section 405-c funded projects, this section provides (bolded and underlined) key project updates as available, anticipated performance attribute impacts (i.e., improvements in accessibility, accuracy, completeness, integration, timeliness, and uniformity), and how projects address, ideally with quantitative improvement, recommendations from the 2019 Traffic Records Assessment.

OGR conducted in early 2021 an Availability of Grant Funds (AGF) process to identify new projects to use FFY 2021 and earlier Section 405-c funding. With TRCC input, six projects to help address recommendations from the 2019 Assessment were identified for 405-c funding in April 2021. Three of these projects were approved by NHTSA for the Massachusetts FFY 2021 Highway Safety Plan. One project is expected to be completed within FFY 2021. The other two projects will continue and be part of the FFY 2022 HSP. The three remaining projects are expected to commence in October 2021 and will be part of the FFY 2022 HSP. The six projects identified in spring 2021 are described below.

Below is a list of associated performance targets for FFY 2022:

Traffic Record Performance Target #1 – Decrease the percentage of Massachusetts State Police-submitted crash reports with invalid or incomplete entries in Accepted with Warning (AWW) fields (utilizing criteria by RMV with Crash Data System data in UMassSafe Data Warehouse) from 3.7% as of 8/31/19 to 2.78% by 12/31/21. Provide mid-project progress toward the target as of 5/31/21.

Performance Target Justification: To improve the accuracy and completeness of crash reporting, the TR 22-01 project will aim to decrease the percentage of State Police-submitted crash reports with invalid or incomplete entries in Accepted with Warning (AWW) fields (utilizing criteria by RMV with Crash Data System

data in UMassSafe Data Warehouse) from 3.7% as of 8/31/19 to 2.78% by 12/31/21.

Traffic Record Performance Target #2 – Exceed the January to December 2020 benchmarks for the RMV FARS Unit - for timeliness, completeness, and quality - by 1% for January to December 2021.

Performance Target Justification: To improve accuracy, completeness, and timeliness of fatal crash reporting into MassDOT/Registry of Motor Vehicles' Crash Data System, the TR 22-02 project will seek to exceed the January to December 2020 benchmarks for the RMV FARS Unit - for timeliness, for completeness, and overall case quality - by 1% for January to December 2021.

Traffic Record Performance Target #3 – By 6/30/22 DCJIS will install approximately 170 mobile printers for police vehicles and provide related training at an estimated 20 departments new to MACCS.

Performance Target Justification: To enhance the accuracy, completeness, and timeliness attributes of the citation/adjudication and crash data systems of Massachusetts, the TR 22-03 project will work to install approximately 170 mobile printers for police vehicles at an estimated 20 departments new to MACCS by 6/30/22.

Traffic Record Performance Target #4 – Increase the number of Massachusetts driver records integrated with Massachusetts crash and injury surveillance (hospital case mix) data from 38,000 as of 7/1/21 to 152,000 by 9/30/22.

Performance Target Justification: To improve the accessibility and integration of the crash, driver, and injury surveillance/EMS data systems, the TR 22-05 project will aim to increase the number of Massachusetts driver records integrated with Massachusetts crash and injury surveillance (hospital case mix) data from 38,000 as of 7/1/21 to 152,000 by 9/30/22.

Traffic Record Performance Target #5 – A completeness/validity measurement of the field 'cited' in CDS driver data will be improved by 20% from a baseline of 36.9% (64,241/173,957 drivers) for 1/1/20-12/31/20 to 44.3% for 7/1/21-6/30/22.

Performance Target Justification: To enhance the accuracy, completeness, integration, and uniformity of the crash, driver, and vehicle data systems, the TR 22-06 project will seek to increase a completeness/validity measurement of the

field 'cited' in CDS driver data will be improved by 20% from a baseline of 36.9% (64,241/173,957 drivers) for 1/1/20-12/31/20 to 44.3% for 7/1/21-6/30/22.

Traffic Record Performance Target #6 – Increase the number of ambulance trip records successfully transmitted to the NEMSIS national repository from the Massachusetts Ambulance Trip Record Information System (MATRIS) from 0 as of 3/31/21 to 800,000 by 3/31/22

Performance Target Justification: To improve the accuracy, completeness, integration, and uniformity of the injury surveillance/EMS data systems, project TR 22-07 will make the Massachusetts Department of Public Health's Massachusetts Ambulance Trip Record Information System (MATRIS) data available nationally for all stakeholders by increasing the number of records submitted to the NEMSIS national repository to 800,000 by 3/31/22

Traffic Record Performance Target #7 - Increase the number of trauma centers and community hospital submitting mandatory trauma reporting to the new trauma registry within 90 days of quarter closure from 0 as of 3/31/21 to 20 by 3/31/22.

Performance Target Justification: - To increase the accuracy, completeness, timeliness, and uniformity of the injury surveillance/EMS system, project TR 22-08 will increase the number of trauma centers and community hospital submitting mandatory trauma reporting to the new trauma registry within 90 days of quarter closure from 0 as of 3/31/21 to 20 by 3/31/22.

4.1 FFY 2022 405-c Funded Projects

MSP Crash Report Training

Highway Safety Plan Task TR 21-01, then TR-22-01

Massachusetts State Police

Budget: \$142,232.54 in FFY 21 and \$22,578.46 in FFY 22 (NHTSA, Section 405-c);

This project will improve crash report training for Massachusetts State Police (MSP) recruits at the training academy and for current troopers through in-service training. MSP will be assisted in this project by the

University of Massachusetts' traffic safety research program, UMassSafe. In FFY 21 the project began with a review of current MSP crash report training and that done by other states, prior research available through the MA Crash E-Manual, and interviews with state crash data stakeholders. **New curriculum development followed and will lead in FFY 22 to a version for use at the academy with recruits, and one for in-service training with current troopers that has an online option. The project will enhance the accuracy, completeness, timeliness, and uniformity attributes of the crash data system of Massachusetts. This project will improve the data quality control program for the crash data system as called for in the 2019 Massachusetts Traffic Records Self-Assessment.**

This project will support the performance target 1:

To enhance the accuracy, completeness, timeliness, and uniformity attributes of the crash data system of Massachusetts, decrease the percentage of Massachusetts State Police-submitted crash reports with invalid or incomplete entries in Accepted with Warning (AWW) fields (utilizing criteria by RMV with Crash Data System data in UMassSafe Data Warehouse) from 3.7% as of 8/31/19 to 2.78% by 12/31/21.

Motor Vehicle Automated Citation and Crash System (MACCS)

Highway Safety Plan Task TR 21-13, then TR 22-03

Executive Office of Public Safety and Security's Department of Criminal Justice Information Services

Budget: \$199,090 (NHTSA, Section 405-c)

MACCS is a browser-based application available statewide for the purpose of collecting, reconciling, and exchanging motor vehicle incident information including: electronic citation reporting, crash reporting, and traffic stop data collection. The MACCS project is the result of a partnership between EOPSS, local and state law enforcement, and MassDOT. The project has been funded with a combination of capital funds and grants from NHTSA.

The goals of the MACCS project are to ensure greater officer and citizen safety by making the reporting process more efficient and safer at the roadside, improve

data quality by implementing checks at the point of entry and upon submittal, and eliminate redundant data entry processes for agencies across Massachusetts.

As of spring 2021, there were 145 local police departments and the Massachusetts State Police using MACCS.

In FFY 2022 this project will aim to accomplish:

- **Approximately 170 additional printers and associated hardware will be provided to an estimated 20 local law enforcement agencies, along with necessary training and follow-up support.**
- **Further system enhancements by a contractor to MACCS to enable the system to meet yet to be identified needs of its law enforcement users.**

This project will enhance the accuracy, completeness, integration, timeliness, and uniformity attributes of the citation/adjudication and crash data system of Massachusetts. This project will improve the data quality control program for the citation/adjudication and crash data system as called for in the 2019 Massachusetts Traffic Records Self-Assessment.

This project will support the following performance target 3:

To enhance the accuracy, completeness, and timeliness attributes of the citation/adjudication and crash data system of Massachusetts, by 6/30/22 DCJIS will install approximately 170 mobile printers for police vehicles and provide related training at an estimated 20 departments new to MACCS.

Availability of Grant Funds for Traffic Safety Information Systems Improvement Grant Program, Section 405-c funded Projects

Highway Safety Plan Task TR-22-04

Executive Office of Public Safety and Security's Office of Grants and Research
Budget: up to \$750,000 (NHTSA, Section 405-c).

An Availability of Grant Funding (AGF) will be issued to provide FFY 2022 Section 405(c) funding on a competitive basis to quantifiable and measurable projects to improve the accessibility, accuracy, completeness, integration, timeliness, and/or uniformity (a performance attribute) of one or more of the following six core traffic records systems: crash data system, roadway inventory

file, vehicle registration, driver history, citation/adjudication, and injury surveillance system. Improving these systems will in turn enhance the ability to identify priorities for local, state, and federal traffic safety programs. Permissible projects could also evaluate the effectiveness of efforts to improve these six core traffic records systems; link these systems with other appropriate state or federal data systems; and enhance the ability of highway safety stakeholders to observe and analyze local, state, and national trends in crash occurrences, rates, outcomes, and circumstances. Only units of state and local government or not-for-profit organizations with a public purpose would be eligible to apply for funding. All funded projects must help to meet at least one unmet recommendation(s) from the Commonwealth's 2019 Traffic Records Assessment. Preference will be given to projects that have a minimum of one benchmark and one performance measure that will demonstrate at least one quantitative improvement to a performance attribute of a minimum of one of the state's six core traffic records systems. This quantitative improvement must be demonstrated with supporting information covering a 12-month performance period, starting anytime between April 1 and July 1, 2021, and comparable to a prior, contiguous benchmark period of one year. AGF responses would be reviewed by an OGR-selected AGF review committee and the Executive-level Traffic Records Coordinating Committee. Those projects approved for funding would then be submitted to EOPSS and then NHTSA for review and approval. Each resulting project will support one or more of the FFY 2022 performance targets listed above or a new one if necessary.

Integration and Analysis of Crash, Injury Surveillance & Driver Data

Highway Safety Plan Task TR 21-14, then TR 22-05

MA Department of Public Health's Injury Surveillance Program

Budget: \$112,617 (Section 405-c)

The MA Department of Public Health will integrate 2016 - 2018 driver license/history data for crashes with previously integrated data from the MA Crash-Related Injury Surveillance System (MA CRISS) that has crash and hospital case mix data. After linking these data sources, linkage rates, data quality, and data representativeness will be assessed. A report will be produced to show exploratory analysis of the new integrated driver-crash-hospital mix data and this will be shared with traffic records stakeholders. This project will enhance the accessibility and integration of the crash, driver, and injury surveillance/EMS data systems of Massachusetts. This project will improve the

traffic records systems capacity to integrate data as called for in the 2019 Massachusetts Traffic Records Self-Assessment.

This project will support the following performance target 4:

Increase the number of Massachusetts driver records integrated with Massachusetts crash and injury surveillance (hospital case mix) data from 38,000 as of 7/1/21 to 152,000 by 9/30/22.

**Improving Traffic Safety Analysis through Data Quality
Assessment and Driver/Vehicle Data Integration**

Highway Safety Plan Task: TR 22-06

University of Massachusetts-Amherst's UMassSafe

Budget: \$179,587 (Section 405-c)

This project will conduct a data quality assessment of the crash, driver, and vehicle datasets in Massachusetts to determine the strengths and limitations of each and how they can be more effectively integrated for simultaneous analysis. A data management report will be developed to summarize the assessment findings and recommended follow-ups. This project will increase the accuracy, completeness, integration, and uniformity of the crash, driver, and vehicle systems. This project will improve the data quality control program for the driver data system and improve the traffic records systems capacity to integrate data as called for in the 2019 Traffic Records Self-Assessment.

This project will support the following performance target 5:

A completeness/validity measurement of the field 'cited' in CDS driver data will be improved by 20% from a baseline of 36.9% (64,241/173,957 drivers) for 1/1/20-12/31/20 to 44.3% for 7/1/21-6/30/22.

**Massachusetts Ambulance Trip Record Information System
(MATRIS) National Standards Compliance NEMSIS V3.5
Upgrade**

Highway Safety Plan Task TR-22-07

MA Department of Public Health

Budget: \$122,410 (Section 405-c)

The National Emergency Medical Service Information System (NEMSIS) requires all state and ambulance service e-patient care record systems to migrate from NEMSIS V3.4 to V3.5 by 12/31/22. MDPH will use a vendor to update its MATRIS system to accept data submissions using the new version, migrate earlier version data in the system, and work with the currently 15 different vendors of ambulance services so they can adopt the new version. This project will increase the accuracy, completeness, integration, and uniformity of the injury surveillance/EMS system. This project will improve the data quality program for and the interfaces with the injury surveillance/EMS system as called for in the 2019 Traffic Records Assessment.

This project will support the following performance target 6.

Increase the number of trip records successfully transmitted to the NEMSIS national repository from the Massachusetts Ambulance Trip Record Information System (MATRIS) from 0 as of 3/31/21 to 800,000 by 3/31/22.

Massachusetts Trauma Registry Data Timeliness, Uniformity, and Custom Reporting

Highway Safety Plan Task TR 22-08

MA Department of Public Health

Budget: \$40,000 (Section 405-c)

Custom variables need to be added to the new web-based Trauma Registry to accommodate national and state standards. This custom reporting will allow for real-time as well as trauma center and community hospital specific evaluation of the completeness and timeliness of submissions to the registry. This project will increase the accuracy, completeness, timeliness, and uniformity of the injury surveillance/EMS system. This project will improve the data quality program for the injury surveillance/EMS system as called for in the 2019 Traffic Records Assessment.

This project will support the following performance target 7.

Increase the number of trauma centers and community hospital submitting mandatory trauma reporting to the new trauma registry within 90 days of quarter closure from 0 as of 3/31/21 to 20 by 3/31/22.

4.2 Non-405-c Funded Projects

Fatality Analysis Reporting System (FARS)

Registry of Motor Vehicles

Highway Safety Plan Task TR-22-02

Budget: \$82,000 (NHTSA Cooperative Agreement)

NHTSA will continue to be provided by the Registry of Motor Vehicles (RMV) with motor vehicle-related fatality data from Massachusetts for the national FARS and FastFARS through a dedicated RMV position. This FARS Analyst position will be supported with NHTSA as well as state funding. The Massachusetts FARS Manual will continue to be enhanced.

MA Crash-Related Injury Surveillance System (MA CRISS)

MassDOT/Highway Division/Traffic Safety Section and MDPH's Injury Surveillance Program (ISP)

Budget for data analysis and data reports: up to \$200,000 (FHWA)

Budget from new data sources: \$399,995 (MDPH's Motor Vehicle Supplement component of the State Violence and Injury Prevention Project grant funded by the CDC)

Prior funding from MassDOT enabled the MDPH's ISP to conduct a pilot project to link 2012 Crash and Hospital Case-mix data (hospital discharges, ED visits, and observation stays) using deterministic linkage methods. The project successfully developed algorithms to link Crash and all three Case-mix data sets using six matching criteria. Based on the number of MV traffic-related injury cases in each Case-mix data set, the percentage of linked records was 48.3% in hospital discharge data, 42.2% in ED discharge data, and 43.9% in outpatient observation stay data.

Current funding from MassDOT has enabled ISP to link 2013-2017 crash and hospital case-mix data, conduct several analyses using the linked data, and develop data products for dissemination. The expanded data set is now called the MA Crash-Related Injury Surveillance System (CRISS). Please see Section 2.7 for additional details.

Funding from the CDC is supporting steps for ISP to access and link additional data sources to MA CRISS, including driver data, conduct data analysis, and develop data products. ISP also developed a strategic plan for MA CRISS to facilitate long-term sustainability of this integrated data system. See Section 2.7 for further details.

4.3 Projects Completed in FFY 2021

Updated E-Survey Tools, Training, and Roll-out

Highway Safety Plan Task TR 21-12

MA State Police

Budget: \$146,296 (NHTSA, Section 405-c)

Project ended September 30, 2021

As part of larger efforts to enhance the data quality and timeliness of fatal and serious injury crash data collection and analysis in Massachusetts, the Massachusetts State Police's (MSP) Collision & Analysis Reconstruction Section (CARS) acquired new electronic survey tools and undertook state-funded related training and roll-out steps. All these steps improved the quality of the data CARS collects, analyzes, and shares from motor vehicle crash scenes, in particular location and roadway feature information. The new tools enhanced CARS utilization of the state and federally-funded Massachusetts Continuously Operating Reference Station Network that improves location accuracy. Scene investigation time was reduced, enhancing safety for MSP personnel and the public. The initiative also sped up the submission of such data and analysis by CARS to state and ultimately federal systems (in particular the FARS Program, TR-21-02), benefiting investigations/adjudications, roadway hazards reductions, and meeting other highway safety planning and enforcement needs. The project enhanced the accuracy and timeliness attributes of the citation/adjudication, crash, and roadway data systems of Massachusetts. The project improved the data quality control program for the citation/adjudication, crash, roadway data system as called for in the 2019 Massachusetts Traffic Records Self-Assessment. In 2019-2020 latitude and longitude data for 42.5% of fatal crashes collected by MSP-CRU was accurate within 75 ft. The project is aiming to have by 12/31/21 latitude and longitude data for 70% of fatal crashes collected by MSP-CRU was accurate within 75 ft.

Motor Vehicle Automated Citation and Crash System (MACCS)

Highway Safety Plan Task TR-21-03

Executive Office of Public Safety and Security's Department of Criminal Justice Information Services

Budget: \$490,161.46 (NHTSA, Section 402)

Project ended September 30, 2021

MACCS is a browser-based application available statewide for the purpose of collecting, reconciling, and exchanging motor vehicle incident information including: electronic citation reporting, crash reporting, and traffic stop data collection. The MACCS project is the result of a partnership between EOPSS, local and state law enforcement, and MassDOT. The project has been funded with a combination of capital funds and grants from NHTSA. The project increased the data quality of the crash and citation systems as called for in the 2019 Traffic Records Assessment.

The goals of the MACCS project are to ensure greater officer and citizen safety by making the reporting process more efficient at the roadside, improve data quality by implementing checks at the point of entry and upon submittal, and eliminate redundant data entry processes for agencies across Massachusetts.

The MACCS pilot commenced in July 2013 to field test the application and in-vehicle hardware (i.e. scanners, printers), identify deficiencies and potential improvements, and support proactive planning in the future potential roll-out of the MACCS system statewide. The MACCS application first went live with Billerica Police Department in April 2017. Since October 2019, the Department of Criminal Justice Information Services (DCJIS) manages the MACCS project. As of spring 2020, there were 145 local police departments and the Massachusetts State Police using MACCS.

During FFY 2021 this project accomplished:

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- Support for travel costs of a full-time position at DCJIS to handle the day-to-day administration of the MACCS project. This ensured further promotion of MACCS and installation of associated printers and training for additional law enforcement users. This position also assisted DCJIS management to secure further system enhancements.
 - As of 3/31/21, 310 additional printers and associated hardware were provided to 36 local law enforcement agencies, along with necessary training and follow-up support. The FFY 2021 project goal is to install approximately 800 printers and an estimated 100 departments.
 - Further system enhancements were made by a contractor to MACCS, in particular to activate the 'return of service' capability of MACCS for many participating departments.

Crash Data Accepted with Warning Part II Project

Highway Safety Plan Task TR-21-05

MassDOT/Registry of Motor Vehicles

Budget: \$192,389.05 (NHTSA, Section 405-c)

Project cancelled January 2021

This project was cancelled in January 2021. The project intent was to build on the work to improve crash data quality begun through the Registry of Motor Vehicles' (RMV) first Section 405-c funded Accepted With Warning (AWW) Project. It would have provided full-time administrative support for the RMV's Law Enforcement Liaison (LEL) to enable this position to spend more time with state and local law enforcement agencies to address crash data reporting challenges identified through their AWW reports. Using AWW analysis from the University of Massachusetts' traffic safety research program UMassSafe, the LEL would have been able to prioritize the agencies to work with and the topics to address. All these efforts were expected to reduce the number of crash reports submitted with incomplete or invalid data and increase the number of AWW reports being corrected and resubmitted (and tracked through a new system). It was expected that the project would enhance the accuracy, completeness, timeliness, and uniformity attributes of the crash data system and improve the data quality control program for the crash data system as called for in the 2019 Massachusetts Traffic Records Self-Assessment.

Crash E-Manual Phase II Project

University of Massachusetts-Amherst/UMassSafe's

Highway Safety Plan Task TR-21-06

Budget: \$184,898.93 (NHTSA, Section 405-c)

Project ended September 30, 2021

This project enhanced the Massachusetts Law Enforcement Crash Report E-Manual's content and functionality as well as further promoted its use. This online tool is available at masscrashreportmanual.com. This project started by soliciting feedback from state and local law enforcement to determine the current content relevancy and usability of the tool. Google Analytics was utilized to analyze site usage and promotional needs. The tool was then updated and expanded, including an interactive overlay of the Massachusetts crash report form. Further promotion of the site followed to encourage greater use by law enforcement and other traffic records stakeholders. The project enhanced the accuracy, completeness, timeliness, and uniformity attributes of the crash data system of Massachusetts. This project improved the data quality control program for the crash data system as called for in the 2019 Massachusetts Traffic Records Self-Assessment.

MATRIS and Trauma Registry Project Uniformity, Accuracy, and Integration Project

Highway Safety Plan Task TR-21-07

Massachusetts DPH

Budget: \$175,000 (NHTSA, Section 405-c)

Project ended September 30, 2021

This project continued to enhance the accuracy, completeness, integration, timeliness, and/or uniformity of the Massachusetts Ambulance Trip Record Information System (MATRIS) and the Trauma Registry (TR). Key MATRIS deliverables included complete migration of MATRIS data providers to NEMSIS Version 3, necessary updates to this software, and exploration of better hosting options for MATRIS V3. Major TR deliverables involved advancement of the procurement process for a commercial-off-the-shelf system for a new TR application, related configuration/testing, as well as better data quality reporting and linkage efforts for the TR. This project helped in part to improve the data quality control program for the EMS/Injury Surveillance System as called for in the 2019 Massachusetts Traffic Records Self-Assessment.

MA Trauma Registry, MA Ambulance Trip Record Information System Project

Highway Safety Plan Task TR 21-08

Massachusetts Department of Public Health

Budget: \$226,800 (NHTSA, Section 405-c)

Project ended September 30, 2021

This project continued to enhance the accessibility, accuracy, completeness, and uniformity of the Massachusetts Ambulance Trip Record Information System (MATRIS) and the Trauma Registry (TR). Key MATRIS deliverables would be complete migration of MATRIS data providers to NEMSIS Version 3 standards and submission process as well as MATRIS data access through MDPH's web-based Population Health Information Tool (PHIT) available to local and state stakeholders. Major TR deliverables would be better quality assurance and quality control (QA/QC) reporting functionality to submitting facilities. Data linkage between the two systems would result from the project. This project will improve the data quality control program for the Injury Surveillance/EMS data system as called for in the 2019 Massachusetts Traffic Records Self-Assessment.

Boston Cyclist, Pedestrian and Vehicular Incident Information System Enhancement

Highway Safety Plan Task TR-21-09

Boston EMS

Budget: \$84,763 (NHTSA, Section 405-c)

Project ended August 31, 2021

In the latest phase of this on-going project, Boston EMS continued to promptly vet and validate roadway incidents involving bicyclists and pedestrians, enhanced documentation of relevant data points, built upon just-in-time and canned reporting capabilities, and disseminate findings to inform injury prevention, transportation, and law enforcement efforts. This project continued collaboration between Boston EMS, Boston Police Department, and Boston Department of Innovation Technology to enhance integration and reporting of related data. All these efforts enhanced the city's on-going efforts to improve public awareness of and infrastructure improvements for greater bicyclist and

pedestrian safety. An annual report on roadway incidents involving bicyclists and pedestrians documented by Boston EMS through this project was issued for CY 2019, then for CY 2020. This project helped to improve the data quality control program for the EMS/Injury Surveillance system.

Crash Reporting Improvement Project

Highway Safety Plan Task TR-21-10

Boston Police Department

Budget: \$330,000 (NHTSA, Section 405-c)

Project ended September 30, 2021

This project improved electronic crash reporting by the Boston Police Department (BPD) by providing an application to officers to more easily submit crash data from field or office locations to BPD's records management vendor, and then on to the Registry of Motor Vehicles' crash data system. This project also enhanced BPD's ability to analyze crash data and to improve traffic safety and enforcement efforts. BPD utilized city-funding to conduct officer training and other roll-out efforts for this project. The project enhanced the accuracy, completeness, timeliness, and uniformity attributes of the crash data system of Massachusetts. This project improved the data quality control program for the Crash Data System as called for in the 2019 Massachusetts Traffic Records Self-Assessment.

4.4 Update on FFY 2021 Performance Targets

Below is an update on the work done to meet the performance targets in the FFY 2021 strategic plan:

TR-1: Decrease % of MSP-submitted crash reports with invalid/incomplete AWW fields

For FFY 2021, the first TR performance target was to decrease the percentage of Massachusetts State Police-submitted crash reports with invalid or incomplete entries in Accepted with Warning (AWW) fields from 3.7% as of August 31, 2019 to 2.7% by December 31, 2021.

Progress: As of 4/22/21 the current performance measure for the period of 1/1/21-3/31/21 is at 3.4% (4,453/132,726) of crash report fields from the RMV-AWW initiative which have invalid/incomplete data – illustrating a reduction of .3 relative percentage points, 33% of progress towards the stated goal. However

since the work being done by this project has to yet to be implemented, this reduction is likely the positive impact of on-going data quality improvement work by the Registry of Motor Vehicles.

TR-2: Exceed January to October 2020 benchmarks for the RMV FARS unit

For FFY 2021, the second TR performance target was to exceed the January to October 2020 benchmarks for the RMV FARS Unit - for timeliness, completeness, and quality - by 1% for January to October 2021.

Progress: The January – October 2020 benchmarks for the RMV FARS Unit were 86.94% for timeliness, 83.77% for completeness, and 79.87% for overall case quality. The averaged measurements for benchmarks from January – April 2021 are 95.11% for timeliness, 94.94% for completeness, and 90.29% for overall quality - so to date well exceeding the 1% performance goal for all three measures.

TR-3: Installation of printers for MACCS system in law enforcement vehicles

For FFY 2021, the third TR performance target was to install approximately 800 printers for the Motor Vehicle Automated Citation and Crash System in vehicles at an estimated 100 local law enforcement agencies by September 30, 2021.

Progress: By April 2021, 310 printers had been installed at 36 local law enforcement agencies.

TR-4: Increase acceptable resubmissions to RMV CDS of prior rejected reports

For FFY 2021, the fourth TR performance target was to increase acceptable resubmissions to RMV Crash Data System of previously rejected reports within a test group of 30 local police departments from benchmark to be established in October 2020 by 3% as of December 31, 2021.

Progress: Due to an administrative challenge involving the hiring of a proposed clerk at MassDOT/RMV, this project was cancelled before it could get underway by MassDOT/RMV in January 2021. The unused funds from this project will be added to those available in TR 22-04.

TR-5: Decrease the number of state and local police-submitted crash reports Accepted with Warning (AWW) for not having complete/valid entries

For FFY 2021, the fifth TR performance target was to decrease the number of state and local police-submitted crash reports accepted with a warning (AWW) for not having complete or valid entries within 2019 AWW fields from 45% as of June 30, 2019 to 30% by December 31, 2021.

Progress: After the submission of this performance target in the FFY 21 HSP, there was a need to revise the benchmark/performance measure for this project so it could be conducted within FFY 21 and not run into FFY 22. So the target stated above was not met.

The replacement target is: Reduce the number of MA crash reports from state and local police that have incomplete/invalid data in any of the fields included in the RMV 2018/2019 AWW initiative by 5% (2.2 relative percentage points) from 42.2% (10,676/25,295) for the period of 1/1/20 – 3/31/20 to 40% for the period of 7/1/21-9/30/21.

As of 4/22/21 the current performance measure for the period of 1/1/21-3/31/21 is at 41.0% (6,315/15,390) of crash reports which have invalid/incomplete data in any of the RMV-AWW initiative fields – illustrating a reduction of 1.2 relative percentage points, 55% of progress towards the stated goal. However since the work being done by this project has to yet to be implemented, this reduction is likely the positive impact of on-going data quality improvement work by the Registry of Motor Vehicles.

TR-6: Increase number of ambulance services submitting NEMSIS Version 3 reports to MATRIS

For FFY 2021, the sixth TR performance target was to increase the number of ambulance services submitting NEMSIS Version 3 reports to the Massachusetts Ambulance Trip Record Information System (MATRIS) from 213 as of March 31, 2020 to 300 by March 31, 2021.

Progress: The goal was met as of March 31, 2021, because 301 ambulance services were submitting NEMSIS Version 3 reports to MATRIS.

TR-7: Increase Boston PD's electronic crash reporting to RMV CDS

For FFY 2021, the seventh and final TR performance target was to increase Boston Police Department's electronic crash reporting to the RMV Crash Data System (CDS) from an estimated 7% rate as of July 1, 2020 to 70% or more by June 30, 2021.

Progress: As of April 2021, the estimated electronic crash reporting rate to the RMV's CDS was 5.8%. This lower figure likely reflects the continuing impact of COVID on the department's crash reporting. Also important to note is their 405c funded e-crash reporting project that was to have started in summer 2020 didn't begin get under contract until March 2021.